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REMARKS

Claims 1-25 are pending. No new matter has been added. The rejections of the claims are respectfully traversed in light of the following remarks, and reconsideration is requested.

Rejections Under 35 U.S.C. § 103

Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Matsuyama et al. (U.S. Patent No. 5,633,739) (hereinafter "Matsuyama") in view of Takao et al. (U.S. Patent No. 5,568,293) (hereinafter "Takao").

Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Matsuyama in view of Takao and further in view of Nakamura et al. (U.S. Patent No. 5,725,975) (hereinafter "Nakamura").

Claims 20-25 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Matsuyama in view of Takao and further in view of Kim (U.S. Patent No. 6,567,150).

In rejecting the claims, the Examiner writes in part in the Office Action:

> Matsuyama et al . . . do not disclose the peripheral portions of the neighboring color filter overlap each other and having a taper angle less than 40 degrees. Takao et al. do disclose a color filter (B/G/R) can be overlapped to each other with a taper angle less than 40 degrees (respect to the normal line). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to modify the Matsuyama et al. color filter having at least a part of the peripheral portion overlapping to each other with a taper angle less than 40 degrees as shown by Takao et al. in order to reduce alignment effect (col. 2, ln 9-13).

However, Applicant submits that Matsuyama teaches *throughout* the disclosure in *each* of the embodiments "a protective area for protecting against dye diffusion filling the gaps between the colored patterns" with the "protective area against dye diffusion [being] constituted of a not-colored part FIL(T) of a dye receiving layer, protective overcoats PSV2 and PSV3, or of a black matrix with a high heat resistance." (Matsuyama, Abstract) (emphases added).

In particular, Matsuyama discloses the following:

> [T]he colored areas FIL(R), FIL(G), and FIL(B) were divided by providing the protective area against dye diffusion with a transparent non-colored area FIL(T), so that color mixing was prevented.

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(Matsuyama, Embodiment 1, col.8, lines 27-30; FIGS. 1 and 2) (emphasis added).

Moreover, as an example of improving the heat resistance, FIGS. 3 to 4 show a sectional view of an essential part of a color filter. The following is a fabrication process example, as shown in FIGS. 11(a) to 11(e). . . . . In the case of this embodiment, the patterns of all colors were simultaneously formed as the dye receiving layer 1 by only one photolithography process without repeating the photolithography process for each primary color, unlike the conventional method. . . . The section of three primary color patterns is shown [in] FIGS. 3 to 4 and they are divided into areas by separating patterns for each pixel element or each color by grooves. . . . . Moreover, to improve the heat resistance as a color filter, a protective overcoat [PSV2] is formed on and between colored patterns. This structure makes it possible to effectively prevent color mixing and color fading of color patterns . . . (Matsuyama, Embodiment 2, col.9, lines 35-59; FIGS. 3-4 and 11(a)-11(e)) (emphasis added).

As shown in FIG. 5, . . . a second dye diffusion stopper PSV3 was formed on the surface of the colored layers as a transparent inorganic film or an organic film having no dyeing function in order to further improve the dye diffusion preventive effect.
(Matsuyama, Embodiment 3, col.10, lines 17-21; FIG. 5).

By filling the protective area against dye diffusion between colored patterns with a black matrix material superior in the heat resistance and having a low transmittance, it is possible to prevent the dye in a colored layer from diffusing in the lateral direction.
(Matsuyama, Embodiment 4, col.10, lines 53-57; FIGS. 6-7, 12(a)-12(e)) (emphasis added).

With this structure, the color patterns that form the color filters FIL(R), FIL(G), FIL(B) are separated from each other by a preformed black matrix BM, as shown in FIG. 7, so that unwanted color mixing due to dispersion of dyes on the same plane can be prevented.
(Matsuyama, Embodiment 4, col.11, lines 57-61; FIG. 7) (emphasis added).

[P]atterns corresponding to three primary colors were formed through exposure and development using an ordinary photolithography. In this case, the patterns were formed by setting gaps between the patterns and dividing them into areas.
(Matsuyama, Embodiment 5, col.12, lines 32-36; FIGS. 8 and 9).

FIGS. 11(a)-11(e) show a fabrication process for the structure shown in FIG. 3. Matsuyama clearly shows in all the embodiments the following: (1) a not-colored part FIL(T) of a dye receiving layer, (2) protective overcoats PSV2 and/or PSV3, and/or (3) a black

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matrix BM between the color filters for separating the color patterns and for preventing color diffusion.

Matsuyama further discloses in the claims "a dye prevention area filling gaps between the color patterns" (independent claim 1), "a layer of three primary colored patterns colored by thermal dye transfer technology, the colored patterns being separated by gaps" (independent claims 8 and 22), and a "color filter substrate including three primary color filters separated by a black matrix" (independent claims 17 and 20). Thus, Matsuyama discloses color filters which are separated from each other to prevent dye diffusion.

Takao discloses an overlap of the peripheral portions of adjacent color filters but does not disclose or suggest the use of a black matrix between and under the interface of overlapping color filters, instead disclosing that a light intercepting layer 117 is formed after the colored patterns 114, 115, 116 are formed on the glass substrate 111 (Takao, col.19, lines 18-23).

Accordingly, modifying Matsuyama in view of Takao such that peripheral portions of the neighboring color filters overlap each other in combination with a black matrix between and under the interface of overlapping color filters, would destroy the intent, purpose, and function of the invention disclosed in both Matsuyama and Takao. Both Matsuyama and Takao teach away from such a modification. Accordingly, Applicant submits that Matsuyama is not properly combinable with Takao and the presently claimed invention would not have been obvious to one of ordinary skill in the art at the time of invention in view of the cited references.

Nakamura and Kim do not remedy the deficiencies of Matsuyama and Takao noted above.

In contrast, Claim 6 recites "sequentially forming a plurality of color filters neighboring each other on the substrate and the black matrix, each color filter having a flat central portion and a peripheral portion, the peripheral portion overlapping the black matrix . . . wherein the peripheral portions of the neighboring color filters overlap each other and have a taper angle less than 40 degrees.." Accordingly, because the cited references, alone or in combination, do not disclose or suggest all the limitations of Claim 6, Claim 6 is patentable over Matsuyama, Takao, Nakamura, and Kim, alone or in combination.

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Claims 7 and 20-25 are dependent on Claim 6, and contain additional limitations that further distinguish them from the cited references. Therefore, Claims 7 and 20-25 are allowable over Matsuyama, Takao, Nakamura, and Kim, alone or in combination, for at least the same reasons provided above with respect to Claim 6.

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CONCLUSION

For the above reasons, Applicant submits that all pending Claims 6-7 and 20-25 are now in condition for allowance and allowance of the Application is hereby solicited. If the Examiner has any questions or concerns, the Examiner is hereby requested to telephone Applicant's Attorney at (949) 752-7040.

Certificate of Transmission

I hereby certify that this correspondence is being facsimile transmitted to the Commissioner for Patents, Fax No. 571-273-8300 on the date stated below.

Tina Kavanaugh August 31, 2006

Respectfully submitted,

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